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THE BIRD ROCKS OF THE GULF OF ST. LAWRENCE IN 1887.

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THREE hundred and thirty-two years ago Jacques Cartier, voyaging in the Gulf of St. Lawrence, wrote as follows: "We came to three islands, two of which are as steep and upright as any wall, so that it was not possible to climb them, and between them there is a little rock. These islands were as full of birds as any meadow is of grass, which there do make their nests, and in the greatest of them there was a great and infinite number of those that we call Margaulx, that are white and bigger than any geese, which were severed in one part. In the other were only Godetz, but toward the shore there were of those Godetz and great Apponatz, like to those of that island that we above have mentioned; we went down to the lowest part of the least island, where we killed above a thousand of those Godetz and Apponatz. We put into our boats so many of them as we pleased, for in less than one hour we might have filled thirty such boats of them. We named them the Islands of Margaulx."

While this description, as well as the sentences which immediately precede it, contains some statements that apparently are at variance with existing facts, there is nevertheless good reason to believe that Cartier here refers to the Bird Rocks in the Gulf of

St. Lawrence.* The birds called Margaulx, "which bite even as dogs," were Gannets whose descendants, in spite of centuries of persecution, are to be found to-day, nesting where their ancestors did before them.

That Cartier's description of the islands does not accord with their present appearance is not to be wondered at. The material of which they are composed is a soft, decomposing, red sandstone that succumbs so easily to the incessant attacks of the sea that Dr. Bryant's description of them in 1860 does not hold good to-day. If, then, the Bird Rocks have undergone visible changes in twenty-five years, it is easy to imagine how great alterations the islets may have undergone during three and a quarter centuries.

Dr. Bryant in 1861 wrote as follows: "These [the Bird Rocks] are two in number, called the Great Bird or Gannet Rock, and the Little or North Bird; they are about three-quarters of a mile apart, the water between them very shoal, showing that, at no very distant epoch, they formed a single island. . . . The North Bird is much the smallest and though the base is more accessible, the summit cannot, I believe, be reached, at least, I was unable to do so; it is the most irregular in its outline, presenting many enormous detached fragments, and is divided in one place into two separate islands at high water; the northerly one several times higher than broad, so as to present the appearance of a huge rocky pillar.

"Gannet Rock is a quarter of a mile in its longest diameter from S. W. to N. E. The highest point of the rock is at the northerly end where, according to the chart, it is 140 feet high, and from which it gradually slopes to the southerly end, where it is from 80 to 100.

"The sides are nearly vertical, the summit in many places overhanging. There are two beaches at its base on the southerly and westerly sides, the most westerly one comparatively smooth and composed of rounded stones. The easterly one, on the contrary, is very rough and covered by irregular blocks, many of large size and still angular, showing that they have but recently fallen from the cliffs above. This beach is very difficult

* I am indebted to the courtesy of Commander J. R. Bartlett, Chief of the Hydrographic Office, and to Mr. G. W. Littlehales, of the Division of Chart Construction, for very kindly supplying me with data to aid in solving this problem.

to land on, but the other presents no great difficulty in ordinary weather; the top of the rock cannot, however, be reached from either of them. The only spot from which at present the ascent can be made, is the rocky point between the two beaches; . . .”

The Great Rock has apparently altered but little during the past twenty-five years, but such changes as have taken place have tended to improve the character of the southerly beach, which has been selected by the keeper of the lighthouse erected here, for the customary landing-place. Two long ladders, bolted to the rock, now lead to the summit, to which, by means of a winch and a fall, the lightkeeper raises his little boat.

The westerly beach, is, however, the most accessible, and it is here that the heavy lighthouse supplies are landed, a large hoisting apparatus having been placed at the top of the overhanging cliff.

If the Great Rock is but little changed, its lesser relative has suffered greatly from the ravages of time, and sea and frost, rain and ice, have wrought sad havoc with it. It cannot be called an easy spot to land on in any but the smoothest of seas, but once a landing has been effected it is now an easy matter to climb to the summit of either of the two portions into which it is divided.

The wide cleft which forms the division seems to be of comparatively recent origin, and it is only a question of time when there shall be two islets instead of one. The rocky pillar off the northeastern end still stands, but is separated from the little rock even at low tide, although if one does not mind cold water and slippery rocks, it is then easy to wade across the connecting ledge.

It is quite possible, or even probable, that the shoal running from Little toward Great Bird Rock marks the site of the third island and little rock mentioned by Cartier. Or again Cartier may have been at the islands only during flood tide, in which case the Pillar would represent the third island, then undoubtedly of much greater extent.

The birds do not seem to be divided into colonies according to species, Gannets and Murres being found in close juxtaposition, and although the Gannets prefer the upper ledges, yet their distribution is to a great extent regulated by the width of the rocky shelves, the Murres taking possession where there is not

sufficient room to accommodate their larger companions. There is, however, a tendency of birds of a feather to flock together in little groups of a-dozen or two, and at a distance the cliffs appear seamed with white, owing to the lines of perching Gannets.

The top of the rock is now entirely deserted by all birds except the little Leach's Petrels, who burrow in security among the fragments of stone that everywhere show through the shallow soil. Like all their kind these little birds stay at home all day in order to indulge in the reprehensible practice of staying out all night. Consequently none were visible at the time of our landing, late in the afternoon, although a few minutes digging unearthed, at the extremity of a single rat-like burrow, four birds and five eggs.

It is very evident from a little comparison that the interesting colony at the Bird Rocks has become sadly diminished in numbers. At the time of Cartier's visit, every inch of available space seems to have been occupied by breeding birds, and even so late as the time of Audubon this still appears to have been the case. The Gannets were then largely used for bait by the fishermen of Byron Island, and it is related how a party of six killed with clubs 640 birds in less than an hour. In 1860 Dr. Bryant estimated the number of Gannets breeding on top of the Great Rock alone at 50,000 *pairs*, although this is very likely too high a figure. In 1872, owing to the erection of a lighthouse, the colony on top of the rock had become reduced to 5000, and in 1881 Mr. Brewster found that the Gannets had been entirely driven from the summit, although the Little Rock was still thickly populated. He places the total Gannet population of the Rocks at 50,000 which is still an extraordinary and impressive number, though much less than the figures of previous observers.

At the time of Mr. Brewster's visit the Murres were rapidly decreasing in number owing "to the recent introduction of a cannon which is fired every half-hour in foggy weather. At each discharge the frightened Murres fly from the rock in clouds, nearly every sitting bird taking its egg into the air between its thighs and dropping it after flying a few yards. This was repeatedly observed during our visit and more than once a perfect shower of eggs fell into the water around our boat. So serious-

ly had the Murres suffered from this cause that many of the ledges on the side of the rock where the gun was fired had been swept almost clear of eggs.”*

Mr. Turbid, who very kindly afforded us all the assistance and information in his power, told us that the birds were gradually becoming used to the cannon and that the destruction from its use was now comparatively small.

In 1887, only six years later, not a single Gannet bred on the Little Rock although perhaps, a hundred and fifty may have found nesting places on the Pillar, while according to Mr. Turbid's figures not more than 10,000 dwelt on the ledges of the Great Rock. The decrease of the Gannets is most apparent, but the smaller birds have doubtless suffered in the same proportion. Scarce a day passes when the weather is at all favorable, without a visit from some party of fishermen desirous, like those we met at the Little Rock, of obtaining a few Murres for their table. In fact, while we were on the rock, three men landed on the westerly beach and opened fire on the Murres perched along the overhanging ledges, killing some and wounding more.

Many barrels of eggs are also gathered during the season, so that altogether the birds lead a precarious existence. Still a large portion of the island is, practically, so inaccessible that unless the feather hunters afflict this interesting spot with their presence the birds may continue to breed here in diminished numbers for a long time to come.

Besides that of the Bird Rocks the only large colony of Gannets in the Gulf of St. Lawrence is at Bonaventure Island, where, on the lofty and vertical cliffs of the eastern side, these birds breed in a state of semi-security. Dr. Bryant inadvertently locates this colony at Percé Rock, but although this curious and inaccessible island is only a mile or so distant, and the birds breeding on its summit are perfectly safe, not a single Gannet is to be found among them.

During the last twenty years the number of Gannets at Bonaventure Island has greatly diminished, and Capt. J. W. Collins told me when we visited the island in September, 1887, that he was surprised to see how the colony had fallen off.

* Brewster. Proc. Bost. Soc. Nat. Hist. Vol., XXII, p. 410.

That it ever compared in extent with the Bird Rock colonies seems to me extremely doubtful, although Dr. Bryant has so stated. At Bonaventure some of the ledges are accessible to a good climber, while many others may be reached by the aid of ropes, so that by the continued pillaging of their nests the Gannets have greatly decreased in number.

A few Gannets still linger at Perroquet Island, of the Mingan group, in spite of the fact that Dr. Bryant predicted twenty-seven years ago that it would soon be deserted. In 1881 Mr. Brewster speaks of having seen several hundred birds, but in 1887 Capt. Collins found but a dozen or fifteen sitting by their empty nests. The Indians regularly make a clean sweep of this island, and it seems wonderful that a single Gannet should still exist here.

It was my fortune to visit the Bird Rocks on the 9th of July in company with Capt. J. W. Collins and Mr. William Palmer, our object being that of everyone who lands there, to kill birds and gather eggs.

We were favored with an unusually light wind and calm sea, and with a little precaution succeeded in beaching our boat on the shelving ledge on the southerly side of the Little Rock, with no farther accident than that of shipping a bucketful or so of water.

We found that we had been preceded by a party of three fishermen, who had killed a few Murres and Razorbills in order to make a little change in their daily bill of fare, stewed Murre being a dish by no means to be despised. Scores of Gannets were seated on the top of the islet or wheeling anxiously overhead, but a careful search revealed the fact that not an egg or nestling of this bird was to be found. Neither did there appear at first sight to be either egg or young of the Murre or Razorbill in any spot accessible to man, although by dint of much peering under ledges and peeping among the masses of fallen rock a few of each were brought to light. Some of these little nestlings were found in crevices of the rocks scarcely above the level of the tide, and had it not been for their faint but continuous peeping, their presence would have been quite unsuspected.

On the northern side, under the overhanging cliffs, a small number of Murres, Razorbills, and Puffins had their nesting places on the inaccessible ledges, and on the perpendicular walls of the southern side a few Kittiwakes had literally reared their young.

The top of the Pillar was closely packed with breeding Gannets, while here and there a few were dotted along its sides. As this isolated rock is not particularly easy to reach, these birds, together with a considerable colony of Murres, probably succeeded in raising their young, although their number was small compared with the number that might have been raised on the Little Rock had it not been swept clean by the fishermen. Three young Gannets, varying in age from one to three days, were secured from the sloping side of the Pillar, these, according to Mr. Turbid, the lightkeeper, being the first of the season, as the Gannet's period of incubation is much longer than that of the other birds breeding in company with it.

A visit to Great Bird Rock showed it to be the real breeding-ground of the birds, Gannets, Murres, Razorbills, and Puffins being both abundant and tame in spite of the fact that they are subjected to continual persecution.

No Gannets were seen on the Labrador coast east of Mingan, and none on the eastern coast of Newfoundland. At the time of Cartier there seems to have been a colony of these birds on Funk Island, and if one may credit the testimony of the fishermen, they were breeding there thirty years ago. But after the extermination of the Great Auk the fishermen and eggers seem to have done their best to extirpate the remaining denizens of this isolated spot, and it may well be that the Gannets were as effectually annihilated as the unfortunate Garefowl. Certain it is that no Gannets are to be found on Funk Island to-day, and but comparatively few Murres and Razorbills. Twenty years ago one boat took away eleven barrels of eggs on one trip; this year it is much to be doubted if (aside from the Puffins) there have been two barrellfuls laid on the island. Gannets are peculiarly liable to extermination from the pertinacity with which they cling to their old established breeding places; for once they have made a spot their home nothing short of complete destruction seems to drive them from it; and while there are many islands in the Gulf of St. Lawrence which would furnish suitable nesting-places for them, yet, year by year, they return to Bonaventure Island and Bird Rock.